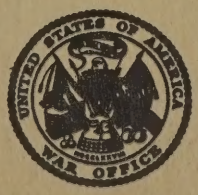
TM 11-5820-382-10

DEPARTMENT OF THE ARMY TECHNICAL MANUAL

OPERATOR'S MANUAL

RADIO SET AN/URC-14



HEADQUARTERS, DEPARTMENT OF THE ARMY

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TECHNICAL MANUAL
No. 11-5820-382-10

HEADQUARTERS
DEPARTMENT OF THE ARMY
WASHINGTON, D.C., *5 January 1965*

Operator's Manual
RADIO SET AN/URC-14

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***This manual supersedes so much of TM 11-5820-382-12P, 7 November 1960, as is applicable to first echelon functional parts list of the AN/URC-14; and TB 11-5820-382-12/1, 13 January 1964, as is applicable to operator's preventive maintenance checks and services.**

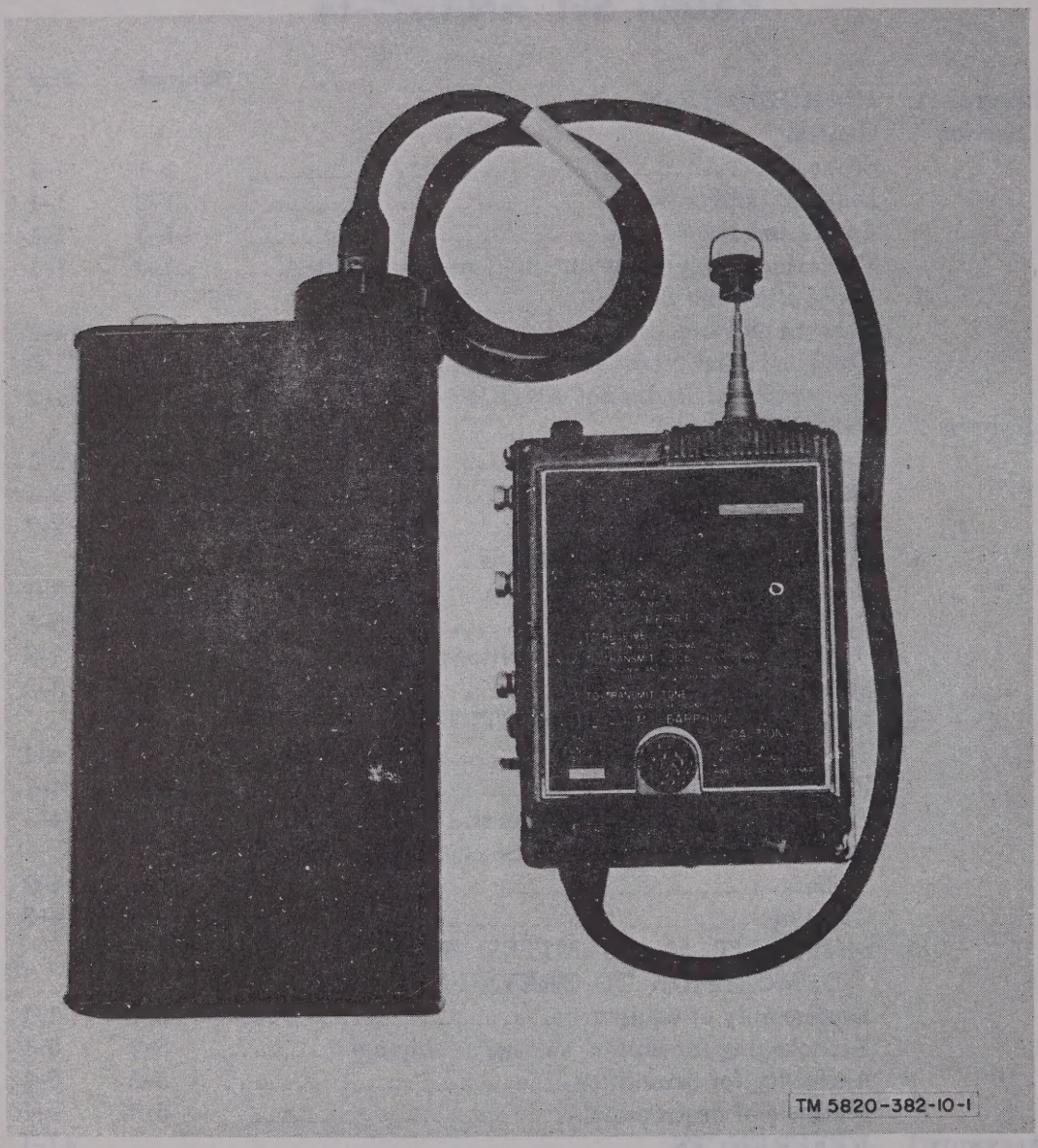

Figure 1-1. Radio Set AN/URC-14.

CHAPTER 1
INTRODUCTION

Section I. GENERAL

1–1. Scope

a. This manual describes Radio Set AN/URC–14 (fig. 1–1) and covers its installation, operation, and maintenance. It includes operation under all conditions, cleaning, and inspection of the equipment.

b. The maintenance allocation chart (MAC) appears in TM 11–5820–382–20.

1–2. Index of Publications

Refer to the latest issue of DA Pam 310–4 to determine whether there are new editions, changes, or additional publications pertaining to the equipment. DA Pam 310–4 is an index of current technical manuals, technical bulletins, supply manuals (types 4, 6, 7, 8, and 9), supply catalogs (type CL), lubrication orders, and modification work orders that are available through publication supply channels. The index lists the individual parts (–10, –20, –35, etc.) and the latest changes to and revisions of each equipment publication.

1–3. Forms and Records

a. Report of Maintenance and Unsatisfactory Equipment. Use equipment forms and records in accordance with instructions in TM 38–750.

b. Report of Damaged or Improper Shipment. Fill out and forward DD Form 6 (Report of Damaged or Improper Shipment) as prescribed in AR 700–58 (Army), NAVSANDA Publication 378 (Navy), and AFR 71–4 (Air Force).

1–4. Reporting of Equipment Manual Improvements

The direct reporting by the individual user of errors, omissions, and recommendations for improving this equipment manual is authorized and encouraged. DA Form 2028 (Recommended Changes to DA Publications) will be used for reporting these improvements. This form will be completed in triplicate by use of pencil, pen, or typewriter. The original

and one copy will be forwarded direct to Commanding General, U.S Army Electronics Command, ATTN: AMSEL–MR–MA, Fort Monmouth, N.J. 07703. One information copy will be furnished to the individual's immediate supervisor (officer, noncommissioned officer, supervisor, etc.).

Section II. DESCRIPTION AND DATA

1–5. Purpose and Use

a. Purpose. Radio Set AN/URC–14 is a small, lightweight, battery-operated, short-range receiver-transmitter that operates within the frequency range of 120 to 130 megacycles (mc).

b. Use. Radio Set AN/URC–14 is primarily used to provide emergency communications on the international distress frequency of 121.5 mc. The AN/URC–14 is stowed on or in emergency equipment, such as life rafts, survival kits, or other similar type emergency kits, or may be carried by an individual in vest or life jacket pockets. Battery, Dry BA–1315/U provides the power necessary for operation of the AN/URC–14.

1–6. Technical Characteristics

a. Radio, Receiver-Transmitter RT–350/URC–14.

Number of tubes	5.
Number of transistors	2.
Frequency range	120 to 130 mc.
Type of modulation	Amplitude.
Type of transmission	Voice or tone modulated.
Frequency control	Crystal.
Range of transmission:	
Over water	5 miles.
Over rough terrain	2 miles.
Power requirements:	
Receive:	
Low power (A)	1.25 volts, 300 ma.
High power (B)	120 volts, 10 ma.
Transmit:	
Low power (A)	1.25 volts, 550 ma.
High power (B)	120 volts, 49 ma.
Power output	100 milliwatts.
Sensitivity	Less than 10 microvolts with signal plus noise-to-noise ratio of 4 to 1.
Audio power output	25 milliwatts (maximum), 1.5 milliwatts (minimum).
Weight	17 ounces.

b. Battery, Dry BA–1315/U.

Power, low voltage	1.3 volts.
Power, high voltage	136 volts.
Weight	42 ounces.

1–7. Description of Radio Set AN/URC–14

(fig. 1–1)

Radio Set AN/URC–14 consists of Radio, Receiver-Transmitter RT–350/URC–14 and Battery, Dry BA–1315/U. The RT–350/URC–14 is 4 inches high, $1\frac{9}{16}$ inches deep, and $3\frac{3}{16}$ inches wide. Power for the RT–350/URC–14 is provided by Battery, Dry BA–1315/U which is $6\frac{21}{32}$ inches high, $3\frac{15}{32}$ inches deep, and $1\frac{17}{32}$ inches wide. The AN/URC–14 normally is carried in a vest or jacket pocket and may be operated in any upright position or handheld.

CHAPTER 2
INSTALLATION

2–1. Unpacking
(fig. 2–1)

a. Packaging Data. When packed for shipment, Radio, Receiver-Transmitter RT–350/URC–14 is placed in a waterproof carton. This carton is placed in a moisture-vaporproof barrier and sealed in a fiberboard carton. The packaged equipment is 6 inches high, 4¾ inches wide, and 4¼ inches deep. The packaged equipment weighs approximately 30 ounces.

Note. Battery, Dry BA–1315/U normally is requisitioned and shipped separately in accordance with SB 11–6.

b. Removing Contents. When a packaged RT–350/URC–14 is received, remove the equipment as follows:

(1) Open the outer carton by cutting the sealing tape at the joints.

(2) Open the moisture-vaporproof barrier and remove the inner carton.

(3) Open the inner carton and remove the contents.

2–2. Checking Unpacked Equipment

a. Check the RT–350/URC–14 for damage incurred during shipment. If the equipment has been damaged, report the damage on DD Form 6 (para. 1–3).

b. See that the equipment is complete as listed on the packing slip. If the packing slip is not available, check the equipment against the basic issue items list (appx II). Report all discrepancies in accordance with TM 38–750.

c. If the equipment has been used or reconditioned, see whether it has been changed by a modification work order (MWO). If the equipment has been modified, the MWO number will appear on the front panel near the nomenclature plate. Check to see whether the MWO number (if any) and appropriate notations concerning the modification have been entered in the equipment manual.

Note. Current MWO's applicable to the equipment are listed in DA Pam 310–4.

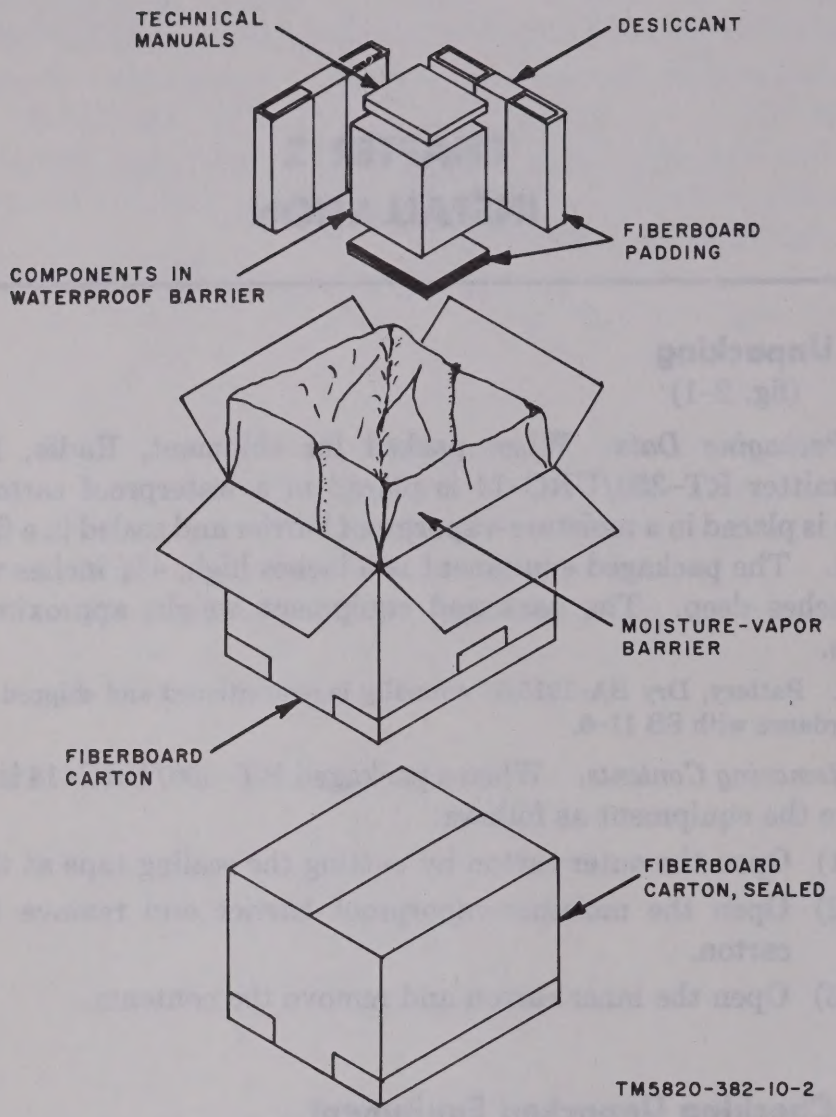

Figure 2–1. Packaging of Radio, Receiver-Transmitter RT–350/URC–14.

2–3. Connections

(fig. 2–2)

Note. The procedures given below are performed upon initial receipt of the equipment or whenever the BA–1315/U is replaced.

Caution: **Before making any connection to the RT–350/URC–14, check to see that all control buttons are locked in the released (out) position.**

Connect the RT–350/URC–14 to the BA–1315/U as follows:

a. Remove the protective cap from the BA–1315/U output connector.

b. Align the keyway of the power cable assembly connector and the key of the BA–1315/U output connector and mate the connectors.

c. Grasp the power cable assembly connector coupling ring between the thumb and forefinger and tighten fingertight.

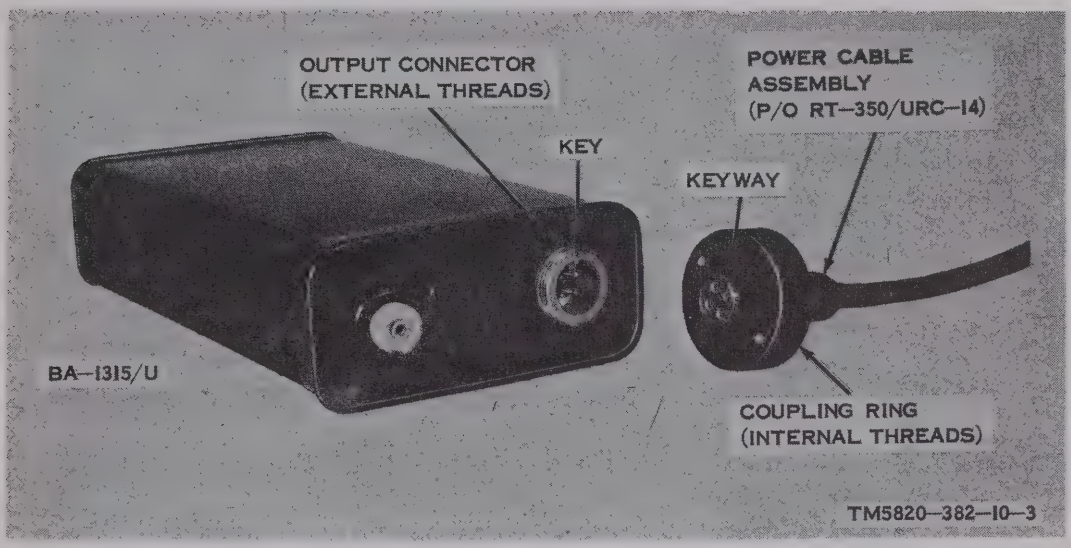

Figure 2-2. Radio Set AN/URC-14, connections.

CHAPTER 3
OPERATING INSTRUCTIONS

3–1. Controls
(fig. 3–1)

Control	Function
REC. button	When depressed, applies operating power and arranges circuits for receiver operation of the RT–350/URC–14.
TRANS. button	When depressed, applies operating power to the transmitter portion of the RT–350/URC–14.
TONE button	When depressed, applies a tone signal to the transmitter portion or receiver portion of the RT–350/URC–14.
LOCK-UNLOCK slide	When in the LOCK position, holds the control buttons in the depressed or released position in any combination. When in the UNLOCK position, allows all control buttons to return to the released position and allows any control button to be depressed.
MIC-EARPHONE unit	Microphone/speaker element of the RT–350/URC–14. Provides audio output of received signals, provides sidetone signals when transmitting tone signals, and acts as microphone element when transmitting voice signals.

3–2. Operation

Radio, Receiver-Transmitter RT–350/URC–14 may be operated as a receiver or transmitter. Extend the antenna assembly by pulling straight upwards on the antenna handle and proceed as follows:

a. Receiver. To operate the RT–350/URC–14 as a receiver, depress the REC. button. Place the MIC-EARPHONE unit next to your ear to hear the received signals. The REC. button may be locked in the depressed position if desired.

b. Transit. To operate the RT–350/URC–14 as a transmitter, depress and lock (if desired) the TRANS. button and perform one of the following procedures.

(1) To voice-modulate the transmitted signal, speak in a normal tone into the MIC-EARPHONE unit.

(2) To tone-modulate the transmitted signal, depress the TONE button.

Note. The TONE button may be used to control (key) the tone-modulated signal for transmission of a coded (dots and dashes) signal or locked depressed to provide a constant tone for use as a beacon signal.

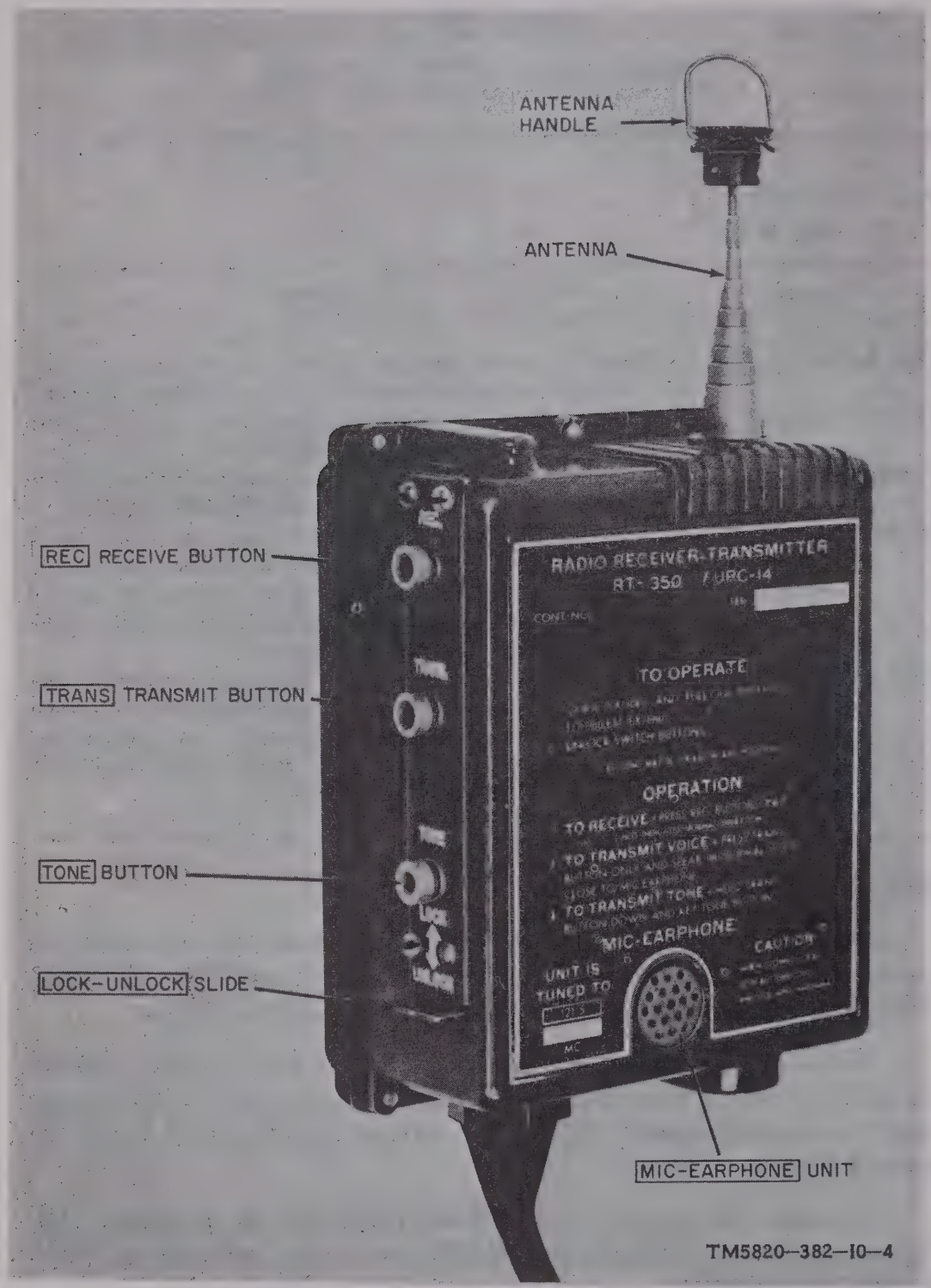

Figure 3-1. Radio Set AN/URC-14, controls.

3–3. Operation Under Unusual Conditions

The AN/URC–14 normally is operated under emergency conditions. Certain operational precautions, given below, must be observed during operation to obtain maximum efficiency of the AN/URC–14.

a. If operating in cold climates, maintain the battery at a warm temperature. This temperature may be achieved by keeping the battery next to your body.

b. If operating in wet areas, keep the equipment as dry as possible; during operation, wipe the equipment frequently, paying close attention to moisture on the antenna.

c. If operating in extremely dusty or sandy areas, keep the equipment controls as protected as possible and frequently wipe dust or dirt from the external surfaces.

3–4. Stopping Procedures

Operation of the AN/URC–14 may be stopped by setting the LOCK-UNLOCK slide to the UNLOCK position and allowing all control buttons to be set to their released position. To insure that no accidental transmission takes place or that there is no drain of power on the battery, lock the control buttons in the released position. Before stowing the AN/URC–14, collapse the antenna into its housing.

CHAPTER 4
MAINTENANCE INSTRUCTIONS

4–1. Scope of Maintenance

The maintenance duties assigned to the operator of Radio Set AN/URC–14 are listed below together with a reference to the paragraphs covering the specific maintenance function. The duties assigned do not require tools or test equipment.

a. Daily preventive maintenance checks and services (para. 4–4).

b. Cleaning procedures (para. 4–5).

4–2. Preventive Maintenance

Preventive maintenance is the systematic care, servicing, and inspection of equipment to prevent the occurrence of trouble, to reduce downtime, and to assure that the equipment is serviceable.

a. Systematic Care. The procedures given in paragraph 4–4 cover routine systematic care and cleaning essential to proper upkeep and operation of the equipment.

b. Preventive Maintenance Checks and Services. The preventive maintenance checks and services chart (para. 4–4) outlines functions to be performed at daily intervals. These checks and services are to maintain Army electronic equipment in a combat serviceable condition; that is, in good general (physical) condition and in good operating condition. To assist operators in maintaining combat serviceability, the charts indicate what to check, how to check, and what the normal conditions are; the *References* column lists the illustrations, paragraphs, or manuals that contain detailed repair or replacement procedures. If the defect cannot be remedied by the operator, higher level maintenance or repair is required. Records and reports of these checks and services must be made in accordance with the requirements set forth in TM 38–750.

4–3. Preventive Maintenance Checks and Services Periods

Preventive maintenance checks and services of the AN/URC–14 are required daily. Paragraph 4–4 specifies the items to be checked and serviced. In addition to the routine daily checks and services, the equipment should be rechecked and serviced immediately before going on a mission and as soon after completion of a mission as possible.

4–4. Daily Preventive Maintenance Checks and Services Chart

Sequence No.	Item	Procedure	References
		Physical Checks	
1	Interior surfaces	Clean the RT–350/URC–14	Para. 4–5.
2	Intercabling	Check the power cable assembly for cracks and breaks. Check the connector for damage.	Figure 1–1.
3	Battery	Clean the BA–1315/U; check connector for damage.	Para. 4–5 and figure 1–1.
4	Publications	Operator's manual must be complete and in good condition.	None.
		Operation	
5	Controls	While making the operating checks (items 6–12), observe that the mechanical action of each control button and the LOCK-UNLOCK slide is smooth and free of external or internal binding.	Figure 3–1.
6	Antenna	Extend the antenna; observe that the antenna is clean, free of dents, and remains in the extended position.	Figure 1–1.
7	LOCK-UNLOCK slide.	Set the LOCK-UNLOCK slide to the UNLOCK position.	Figure 3–1.
8	Connections	Check connections of the RT–350/URC–14 to the BA–1315/U.	Para. 2–3, figure 2–2.
9	REC. control button	Depress the REC. button and listen at the MIC-EARPHONE unit for hissing noise.	Figure 3–1.
10	TONE control button.	Depress and hold REC. and TONE buttons and listen for tone signal at MIC-EARPHONE unit. Release control buttons.	Figure 3–1.
11	TRANS. control button.	***Caution:*** **Transmission of test signals on distress frequencies should be clearly identified and performed as rapidly as possible and *only when previously scheduled by the local commander.***	Figure 3–1.

Sequence No.	Item	Procedure	References
		Depress the TRANS. control button and speak into the MIC-EARPHONE unit, identify transmission as a test signal, and request monitor radio set (located at least 1 mile away) to provide a signal report.	
12	LOCK-UNLOCK slide.	Check to see that all control buttons are in the released position and set the slide to the LOCK position. The control buttons should be locked in the released position.	Figure 3–1.
		Stopping	
13	Antenna	Collapse antenna into RT–350/URC–14 case; antenna should collapse easily and completely.	Figure 1–1.

4–5. Cleaning

Inspect the exteriors of the RT–350/URC–14 and the BA–1315/U. The exteriors should be free of dust, dirt, grease, fungus, and moisture.

a. Remove dust, dirt, and moisture with a clean soft cloth.

Warning: **Cleaning compound is flammable and its fumes are toxic. Provide adequate ventilation.** ***Do not*** **use near a flame.**

b. Remove grease, fungus, and ground-in dirt from the exterior surfaces; use a cloth dampened (not wet) with a cleaning compound (FSN 7930–395–9542).

c. Remove dust and dirt from connectors with a nonmetallic brush.

CHAPTER 5

SHIPMENT AND LIMITED STORAGE AND DEMOLITION TO PREVENT ENEMY USE

5–1. Disassembly of Equipment

Disassembly of the equipment consists of the following procedures:

a. Lock all control buttons in the released position.

b. Collapse the antenna into the RT–350/URC–14 case.

c. Disconnect the power cable assembly from the BA–1315/U (para. 2–3).

d. Place the protective cap of the BA–1315/U output connector in position on the output connector.

5–2. Repacking for Limited Storage or Shipment

a. If Radio Set AN/URC–14 is to be stored or shipped to other personnel or activities, transport the equipment to a higher maintenance level for packaging.

b. If Radio Set AN/URC–14 is to be transported over short distances for immediate reuse, perform the following procedures:

(1) Disconnect the BA–1315/U from the RT–350/URC–14.

(2) Lock all RT–350/URC–14 control buttons in the released position.

(3) Place the RT–350/URC–14 and BA–1315/U in a corrugated or wooden box and place padding around both pieces of equipment. Use rags or crumpled paper for padding.

5–3. Authority for Demolition

Demolition of the equipment will be accomplished only upon the order of the commander. The destruction procedure (para. 5–4) will be used to prevent further use of the equipment.

5–4. Methods of Destruction

a. Smash the AN/URC–14 with sledges, axes, handaxes, pickaxes, hammers, crowbars, rifle butt, or any hard object or by holding the power cable assembly and swinging the equipment against a hard object.

b. Cut the power cable assembly.

c. Burn the equipment; use gasoline, kerosene, oil, or any flammable material.

d. If none of the above-mentioned material is available, fire a round of ammunition through the RT–350/URC–14 and BA–1315/U.

e. Bury or scatter the destroyed parts in slit trenches, foxholes, or throw them into streams.

APPENDIX I
REFERENCES

Following is a list of references applicable and available to the operator of Radio Set AN/URC–14:

DA Pam 310–4	Index of Technical Manuals, Technical Bulletins, Supply Manuals (types 4, 6, 7, 8, and 9), Supply Catalogs (types CL), Supply Bulletins, Lubrication Orders, and Modification Work Orders.
SB 11–6	Dry Battery Supply Data.
SB 38–100	Preservation, Packaging and Packing Materials, Supplies, and Equipment Use by the Army.
TB SIG 363	Equipment Improvement Report and Maintenance Digest (Electronics Command).
TM 38–750	Army Equipment Record Procedures.

APPENDIX II
BASIC ISSUE ITEMS LIST

Section I. INTRODUCTION

1. General

a. This appendix lists items supplied for initial operation and for running spares. The list includes tools, parts, and material issued as part of the major end item. The list includes all items authorized for basic operator maintenance of the equipment. End items of equipment are issued on the basis of allowances prescribed in equipment authorization tables and other documents that are a basis for requisitioning.

b. Columns are as follows:

(1) *Federal stock number.* This column lists the 11-digit Federal stock number.

(2) *Designation by model.* Not used.

(3) *Description.* Nomenclature or the standard item name and brief identifying data for each item are listed in this column. When requisitioning, enter the nomenclature and description.

(4) *Unit of issue.* The unit of issue is each unless otherwise indicated and is the supply term by which the individual item is counted for procurement, storage, requisitioning, allowances, and issue purposes.

(5) *Expendability.* Nonexpendable items are indicated by NX. Expendable items are not annotated.

(6) *Quantity authorized.* Under **Item Comprising an Operable Equipment,** the column lists the quantity of items supplied for initial operation of the equipment.

(7) *Illustrations.* The "Figure No." column lists the figure and reference numbers used for identification of the items in the illustration.

2. Batteries

Dry batteries shown are used with the equipment but are not considered part of the equipment. They will not be preshipped automatically but are to be requisitioned in quantities necessary for the particular organization, in accordance with SB 11–6.

Section II. FUNCTIONAL PARTS LIST

Federal stock No.	Designation by model	Description	Unit of issue	Exp	Qty auth	Illustration	
						Figure No.	Item No.
5820-752-5278	-- -- -- -- -- --	RADIO SET AN/URC-14: 100 MW power output; 121.5 MC, 1 band, 1 channel; 136 vdc, 1.36 vdc operating power requirements; c/o Receiver-Transmitter RT-350/URC-14, Battery BA-1315/U and adapter for battery connection.	------	NX	------	1-1	
		Items Comprising an Operable Equipment					
Ord-AGC	-- -- -- -- -- --	TECHNICAL MANUAL TM 11-5820-382-10	------	------	2		
5940-792-6346	-- -- -- -- -- --	ADAPTER, BATTERY, CONNECTOR: aluminum; 3/16 in. lg, 1.287 in. dia; Philharmonic Radio and Telev Corp part No. U-0350 (connects radio set power cable to battery).	------	------	1		
6135-295-0608	-- -- -- -- -- --	BATTERY, DRY: MIL type BA-1315/U	------	------	1		
5820-752-5279	-- -- -- -- -- --	RECEIVER-TRANSMITTER RT-350/URC-14	------	NX	1		
		Running Spare Items					
		No Parts Authorized for Stockage Operator Level					

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USATC Inf (2)
USASTC (2)
WRAMC (1)
Army Pic Cen (2)
Army Dep (2) except
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SAAD (30)
TOAD (14)
FTWOAD (10)
LEAD (5)
SHAD (3)
NAAD (5)
SVAD (5)
CHAD (3)
ATAD (4)
GENDEPS (2)
Sig Sec GENDEP (5)
Sig Dep (12)
Instl (2) except
Fort Monmouth (70)
Fort Hancock (4)
Fort Gordon (5)
Fort Huachuca (10)
WSMR (5)
USA Tml Comd (1)
Army Tml (1) except
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USAERDAA (2)
USAERDAW (13)
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11–98	11–587
11–117	11–592
11–155	11–597
11–157	

NG: None.
USAR: None.
For explanation of abbreviations used, see AR 320–50

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